

## **REMARKS**

The foregoing amendment and remarks that follow are responsive to the Office Action mailed February 25, 2004 in relation to the above-identified patent application.

### ***I. Summary of Office Action***

#### **A. Allowable Subject Matter:**

Most importantly, the Examiner noted that “the instant application may contain allowable subject matter with respect to a fiber-reinforced resin composite part comprising a steel substrate and a cured resin layer in between the steel substrate and the fiber reinforced resin material wherein the cured resin layer comprises dispersed polyamide particles, is resistant to temperatures up to 700°F, and prevents acid in the composite from leaching iron from the steel substrate.” The Examiner further noted that “prior art references do not teach a fiber-reinforced resin composite part comprising the quoted steel substrate.”

#### **B. Summary of Examiner’s Objections and Rejections**

In the Office Action, Claims 39 and 46 were objected to based on a view that the claim term “is” should be “comprises.” Claim 36 was rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention. In particular, Claim 36 is a dependant claim which depends upon currently cancelled Claim 35. Claims 39 and 46 were rejected under 35 U.S.C. §112, second paragraph based on a view that the claim language referring to the composite part being resin impregnated fibers renders the claim indefinite for it is unclear whether the Applicants are claiming the composite part with the metal structure and the resin impregnated fibers or the metal structure alone. Claims 31 and 40-46 were rejected under 35 U.S.C. §112, second paragraph based on a view that claim terminology “leaching temperature” was not originally defined in the patent application as filed. Claims 40-46 were additionally rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In

particular, the Examiner indicates that the claim terminology “and a temperature at which ... full-utility composite part out of the structure” is unclear as to what it refers to.

Claims 16, 31, 40 and 42-45 were rejected under 35 U.S.C. §102(e) as being anticipated by Tanaka et al. (U.S. Patent No. 5,993,975). Claim 16, as understood was rejected under 35 U.S.C. §103(a) as being unpatentable over Vassiliou (U.S. Patent No. 4,183,998). In particular, as the Examiner’s rejection is understood, the disclosure of Vassiliou discloses all of the elements of the invention as claimed in Claim 16 except that “Vassiliou does not specifically teach that the metal substrate is a steel substrate, [but] steel is an obvious species of metal utilized in the art and would have been obvious to one of ordinary skill in the art at the time of the invention.” Lastly Claim 41, as understood was rejected under 35 U.S.C. §103(a) as being unpatentable over Tanaka et al. based on a view that particle size is a known result-effective variable affecting the roughness or smoothness of the coating surface and hence one having ordinary skill in the art at the time of the invention would have been motivated to determine the optimum particle size and surface area to provide the desired coating surface properties for a particular end use.

## **II. Applicants’ Response to Office Action**

As a preliminary matter, by this Amendment please cancel Claim 39 without prejudice.

### **A. Allowable Subject Matter**

Most importantly, the Examiner noted that the instant application may contain allowable subject matter, as stated above. In this regard, Applicants have added new Claim 47 which is substantially identical to the language used in item 13 of the Office Action. A comparison between item 13 of the current Office Action and new Claim 47 would indicate that the term “material” was replaced with the term “part” for the purposes of providing antecedent basis. With respect to the allowability of the subject matter expressed in new Claim 47, Applicants agree with the Examiner that the prior art references do not teach a fiber-reinforced resin composite part comprising the coated steel substrate. Accordingly, Applicant respectfully submit that newly added Claim 47 is believed to be allowable.

Additionally, Applicants respectfully submit that the dependent claims of Claim 47 contain patentable subject matter. For example, new Claim 52 recites that the particles have a chopped film shape. The basis for this amendment may be found within the specification as filed, specifically, at page 5, lines 10-12. Applicants respectfully submit that with respect to the chopped film shape the cited prior art, as understood, does not disclose such a shape and neither is it obvious to modify the particles of the cited prior art to the chopped film shape.

In support thereof, the Applicants direct the Examiner's attention to Tanaka et al. In Tanaka et al., the disclosure of Tanaka et al. does not disclose the chopped film shape of the particles but, as understood, only discloses that the particles are fine.<sup>1</sup> Hence, the disclosure of Tanaka et al. does not disclose the chopped film shape of the particles as recited in new Claim 52.

Moreover, there is no motivation to modify the particles disclosed in Tanaka et al. to have chopped film shape. In support thereof, the invention disclosed in Tanaka et al. is related to a coating which is superior in "impact resistance."<sup>2</sup> The determination of the impact resistance of the invention was gauged by applying an impact to the coating, applying an adhesive tape to the impacted area, peeling away the adhesive tape, and the extent of the coating peeled away by the adhesive tape was used to rate the impact resistance with the range of impact resistance being no peeling to considerable peeling.<sup>3</sup> If the particles of Tanaka et al. were modified to have the chopped film shape, then the impact resistance of the coating of Tanaka et al. would be reduced based on a view that the sharp corners of the chopped film shape of the particles would tend to break off and produce more peeling of the coating when the impact resistance is tested in accordance with the method identified in Tanaka et al. In this regard, an expressed goal of the invention disclosed in Tanaka et al. may be defeated and may render the invention disclosed in Tanaka et al. unsatisfactory with respect to its impact resistance. Hence, Applicants respectfully submit that the chopped film shape is not an obvious modification to the invention disclosed in Tanaka et al.

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<sup>1</sup> Col. 5, ln. 32.

<sup>2</sup> Col. 1, lns. 7-9.

<sup>3</sup> Col. 12, lns 21-28.

Applicants additionally argue that the chopped film shape of the particles as recited in new Claim 52 is not disclosed in Vassiliou and is not an obvious variation of the invention disclosed in Vassiliou. In support thereof, Applicants direct the Examiner's attention to its disclosure, specifically, at col. 7, ln. 9 which recites that the particles are "rounded." In this regard, the particles as disclosed in Vassiliou are not chopped film shape based on a view that chopped film shape would produce sharp corners and not rounded corners. Hence, Applicants respectfully submit that the disclosure of Vassiliou does not anticipate the subject matter of chopped film shape of the particles.

Furthermore, the chopped film shape of the particles is not an obvious modification to the invention disclosed in view of the purposes of the invention disclosed in Vassiliou. In Vassiliou, the inventors disclose, as understood, that one of the purposes of the invention disclosed therein is to provide an improved food release coating.<sup>4</sup> In this regard, if the invention disclosed in Vassiliou were to be modified such that the particles had a chopped film shape then, as understood, the food releaseability of the coating would be reduced. The reason is that the food cooked on the coating would tend to solidify within the sharp protrusions created by the chopped film shape. In this regard, an expressed goal or purpose, as understood, of the invention may be defeated and accordingly, Applicants respectfully submit that modification of the invention disclosed in Tanaka et al. to have the chopped film shape is not an obvious modification thereof.

Based on the forgoing, Applicants respectfully submit that new Claim 47 as well as the balance of the dependent claims of new Claim 47, namely, Claims 48-52 are in condition for allowance.

**B. Applicant's response to Examiner's Objections and Rejections**

1. Claim 16 and dependent Claim 31

Claim 16 was rejected under two bases. First, the Examiner rejected Claim 16 under 35 U.S.C. §102(e) as being anticipated by Tanaka et al and being obvious under 35 U.S.C. §103(a) in view of Vassiliou. In relation to Tanaka et al., Applicants respectfully submit that Tanaka et al. does not disclose all of the elements of the invention as claimed in Claim 16. In particular, Tanaka et al. does not disclose the claim limitation of "between 500°F-700°F", as recited in Claim 16.

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<sup>4</sup> Col. 1, ln 28.

Tanaka et al. discloses that the coated substrate is placed in a furnace heated to 220 +/- 28°C “i.e. 464°F max” to produce a cured-coated layer on a metal substrate. As understood, the cured-coated metal substrate may not be subjected to temperatures above 500°F, rather the cured-coated metal substrate may only be subjected to temperatures below 464°F. If the cured-coated metal substrate was subjected to a temperature above 500°F, then as understood, the coating would remelt and flow off of the metal substrate exposing the metal substrate to a corrosive environment to thereby render the metal substrate **non-acid** impervious. Hence, the temperature limitation as recited in amended Claim 16 is not disclosed in the specification of Tanaka et al.

Furthermore, even if the coating taught in Tanaka et al. could be modified such that the same may be subjected to temperatures above 500°F, the metal substrate would not be able to withstand these high temperatures. As such, Applicants respectfully submit that Tanaka et al. teaches away from making an adhesive or coating that is subjectable to temperatures above 500°F based on a view that to do so would be useless in view of the low temperature “i.e. less than 500°F” which the metal substrate may be subjected to.

Moreover, Claim 16 has been amended to further recite the claim limitation that the particulates have a **chopped film shape**. In this regard, the Applicants respectfully submit that Tanaka et al. does not disclose chopped film shape limitation and is not an obvious modification to the invention disclosed in Tanaka et al. as discussed in relation to new Claim 52 above. And, Applicants respectfully submit that Vassiliou does not disclose chopped film shape limitation and is not an obvious modification to the invention disclosed in Vassiliou as discussed in relation to new Claim 52 above.

Based on the foregoing, Applicant respectfully submit that Claim 16 as currently amended is not anticipated by Tanaka et al. under 35 U.S.C. §102(e) and neither obvious under 35 U.S.C. §103(a) in view of Vassiliou, and as a result, Applicant respectfully submit that Claim 16 is believed to be in a condition for allowance.

In relation to Claim 31, as stated in the Summary of the Examiner’s objections and rejections above, the Examiner rejected the same under two bases, as stated above. With respect to the Examiner’s first rejection related to indefiniteness of the claimed terminology “leaching temperature”, Applicants respectfully submit that the Examiner’s

basis for rejection is incorrect based on a view that the original disclosure at the time of filing does not have to **specifically** recite the term leaching temperature. In this regard, Applicants respectfully direct the Examiner's attention to MPEP 2173.05(a) which recites that the claim language need only be apparent from the prior art or from the specification and drawings at the time the application was filed. In this regard, it appears that the definition for leaching temperature which is defined in Claim 31 is also found within the specification. Accordingly, Claim 31 by its claim language merely attempts to define a term, namely, "leaching temperature" such that the term may be used elsewhere in the claim. By this way, the invention as recited in Claim 31 is made clearer compared to an alternative Claim 31 which eliminated the term leaching temperature and attempted to claim the invention with the definition instead of the defined term "leaching temperature". In other words, Applicants respectfully submit that if the definition of leaching temperature provided in Claim 31 is apparent from the specifications and drawings of the application at the time the application was filed, then the defined term (i.e. "leaching temperature") is also apparent therefrom based on a view that the defined term is merely a shorthand version of the definition as provided in Claim 31.

Moreover, the Examiner in item 7 of the current Office Action states that:

the leaching temperature "is dependant upon the composition of the composite part including the amount of acid, the type of metal or steel, and the composition and thickness of any intermediate layer between the metal surface and the composite part including the cured adhesive material of the invention. Hence, given that the original disclosure at the time of filing does not clearly define the term "leaching temperature", it is unclear what is meant being encompassed by the claims given that the term is a relative term based on the above variables." (emphasis added.)

In this regard, Applicants refer the Examiner to MPEP §2173.05(b) titled Relative Terminology. In this MPEP section Applicants more particularly refer the Examiner to Orthokenetics, Inc. v. Safety Travel Chairs, Inc., 1 USPQ 2d 1081 (Fed. Cir. 1986) wherein the court held that a claim limitation specifying that a certain part of the pediatric wheelchair be so dimensioned as to be insertable through the space between the door frame of an automobile and one of the seats was held to be definite. This case, as understood, is analogous to the present case based on a view that the Examiner's basis for

a rejection, as understood, is that variables<sup>5</sup> as identified by the Examiner make the claim language indefinite. However, as discussed in Orthokenitics, Inc. a claim is not necessarily rendered indefinite merely because the claim limitation is variable.

With respect to the Examiner's second rejection related to Claim 31 being anticipated by Tanaka et al. under 35 U.S.C. §102(e), Applicants respectfully submit that Tanaka et al. does not disclose the invention as claimed in Claim 31, as amended. In particular, Tanaka et al. does not disclose the claim limitation that a cured operating temperature of the adhesive in particulates are greater than a leaching temperature of the part. In support thereof, Applicant respectfully submits that as understood, Tanaka et al. does not disclose any relationship between the cured operating temperature of the adhesive and particulates in relation to the temperature at which a composite part would leach iron from the metal surface. As understood, the disclosure of Tanaka et al. and more particularly, the invention disclosed therein is directed to a decorative coating and not to a mold. And, as a result, the disclosure of Tanaka et al., as understood, does not disclose any type of composite part or even a part to be molded. Accordingly, Applicants respectfully submit that based on the foregoing discussion that Claim 31 is believed to be in a condition for allowance.

## 2. Claim 40

With respect to Claim 40, as stated above, the Examiner rejected the same under three bases, namely, under 35 U.S.C. §112, second paragraph with respect to the term "leaching temperature" and the end of Claim 40, and under 35 U.S.C. §102(e). With respect to the 35 USC § 112 rejection, Applicants respectfully submit that such a rejection is overcome for the same reasons that Claim 31, as amended, has overcome its 35 U.S.C. §112, second paragraph rejection. Moreover, with respect to the end of Claim 40, Applicants have amended the language to make clearer the subject matter which Applicants regard as the invention. In particular, Claim 40 has been amended to define the operating temperature.

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<sup>5</sup> i.e., composition of the composite part including the amount of acid, the type of metal or steel, and the composition and thickness of any intermediate layer.

With respect to the 35 USC § 102(e) rejection, Applicants respectfully submit that such a rejection has been overcome for the same reasons that Claim 31, as discussed above, has overcome its 35 U.S.C. §102(e) rejection.

Moreover, Claim 40 has been amended to include the chopped film shape limitation discussed in new Claim 52. And, in this regard, Applicants respectfully submit that Claim 40 is not anticipated with respect to Tanaka et al. nor Vassiliou and not an obvious modification of these cited prior art. Hence, Applicants respectfully submit that currently amended Claim 40 is in condition for allowance.

**Applicant's Request**

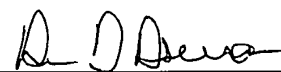
On the basis of the foregoing, Applicant respectfully submits that the objections and rejections stated in the Office Action for Claims 16, 31, 36, and 40-45 have been overcome, and that new Claims 47-52 are in a condition for allowance. An early notice of allowance is therefore respectfully requested.

Should the Examiner have any suggestions for expediting allowance of the application, the Examiner is invited to contact Applicant's representative at the number listed below.

Respectfully submitted,

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By:



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